

REMARKS

The Pending Claims

The pending claims are directed to a chemical-mechanical polishing system comprising a liquid carrier, a polishing pad and/or an abrasive, a per-type oxidizer, and a phosphono additive having a specified chemical formula. Claims 1, 3-11, and 25-33 currently are pending.

Summary of the Office Action

The Office Action objects to the present specification for an alleged informality arising from the fact that the present specification allegedly does not contain a specific example of a compound falling within the scope of the pending claims. The Office Action also rejects claims 1, 3-11, and 25-33 under 35 U.S.C. § 112, first paragraph, as allegedly failing to describe the claimed subject matter in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor had possession of the claimed invention.

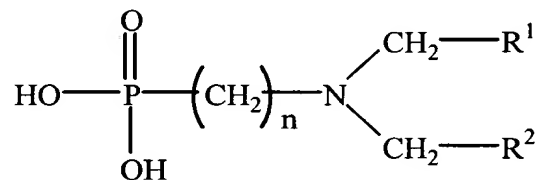
Discussion of the Section 112, First Paragraph, Rejection

As noted above, the specification has been objected to for lack of an example, and the pending claims have been rejected as allegedly failing to comply with the written description requirement set forth in 35 U.S.C. § 112, first paragraph. In particular, the Office Action asserts that the failure to disclose a specific example of an additive in which R¹ is a carboxyl group and R² is a phosphono group amounts to a failure to describe the claimed invention in such a way as to reasonably convey to those of skill in the art that the inventor had possession of the claimed subject matter at the time the application was filed. Applicant respectfully traverses this rejection.

Contrary to the Office Action's assertions, the written description requirement set forth in 35 U.S.C. § 112, first paragraph, does not require an applicant to disclose a specific example of every compound embraced by a particular genus or generic chemical formula recited in the claims of the application. All that is required by 35 U.S.C. § 112, first paragraph, is that the specification "clearly convey the information that an applicant has invented the subject matter which is claimed." *In re Barker*, 559 F.2d 588, 592 n.4, 194 U.S.P.Q. 470, 473 n.4 (C.C.P.A. 1977). Indeed, the Federal Circuit has specifically held that "[a] specification may, within the meaning of 35 U.S.C. § 112[, first paragraph,] contain a written description of a broadly claimed invention without describing all species that claim encompasses." *Utter v. Hiraga*, 845 F.2d 993, 998, 6 U.S.P.Q.2d 1709, 1714 (Fed. Cir.

1988). Furthermore, as the Federal Circuit recently stated, “[i]n claims involving chemical materials, generic formulae usually indicate with specificity what the generic claims encompass. One skilled in the art can distinguish such a formula from others and can identify many of the species that the claims encompass. Accordingly, such a formula is normally an adequate description of the claimed genus.” *Regents of the University of California v. Eli Lilly*, 119 F.3d 1559, 1568, 43 U.S.P.Q.2d 1398, 1406 (Fed. Cir. 1997).

In the present case, the specification provides a generic chemical formula which illustrates the features of the claimed additive with such specificity that one skilled in the art can distinguish the claimed additive from other formulae and chemicals and can readily identify the species that the claims encompass. In particular, the specification provides that the additive has the following formula:



wherein R¹ is a phosphono group or a carboxyl group, R² is a phosphono group or a carboxyl group, and n is a positive integer from 1 to 50 (see, for example, the present specification at paragraph 0013).

Thus, the specification clearly provides a generic formula for the additive that one skilled in the art can distinguish from other formulae and a supporting description that can be used to identify the species that the generic formula encompasses. Indeed, the generic formula for the additive and supporting description provided in the specification encompass only four species resulting from the substitution of R¹ and R² with the disclosed functional groups (only three of which are distinguishable from each other in view of the fact that the nitrogen is an achiral center). In particular, the four species resulting from the substitution of R¹ and R² with the disclosed functional groups are as follows:

1. R¹ is a phosphono group and R² is a phosphono group;
2. R¹ is a phosphono group and R² is a carboxyl group;
3. R¹ is a carboxyl group and R² is a phosphono group (which is the same as species 2 immediately above);
4. R¹ is a carboxyl group and R² is a carboxyl group.

In view of the limited number of species resulting from the substitution of R¹ and R² with the disclosed functional groups and the relatively simple structure of the compounds embraced by such species, the specification's disclosure of the generic formula for the

additive and supporting description cannot properly be considered as failing "to clearly convey the information that [the] applicant has invented the subject matter which is claimed." Indeed, one of ordinary skill in the art, having read the specification and claims of the present application, could at once envisage all of the compounds embraced by the generic chemical formula and supporting description provided in the specification.

Furthermore, the pending claims, as amended in response to the prior Office Action, now encompass only two of the aforementioned species. The amendment of the claims to embrace only half of the species encompassed by the description of the additive provided in the specification cannot properly be considered to give rise to a lack of written description. For example, the amendment set forth in Applicant's "Response to Office Action" dated August 15, 2003, did not amend the claims in such a way as to claim one or more species embraced by the generic formula but not described with sufficient specificity for one of ordinary skill in the art to appreciate that Applicant had possession of the claimed subject matter at the time the application was filed. Indeed, as noted above, the generic formula and supporting description of the additive provided in the specification encompass only four species resulting from the substitution of R^1 and R^2 with the disclosed functional groups. Moreover, in view the fact that the supporting description specifically and separately provides that both R^1 and R^2 can be a phosphono group *or* a carboxyl group, the description provided in the specification should be considered sufficiently specific to convey to those of ordinary skill in the art that Applicant was, at the time the present application was filed, in possession of each of the species resulting from such substitutions.


In view of the foregoing, the subject matter defined by the pending claims cannot properly be considered to lack the written description required by 35 U.S.C. § 112, first paragraph. In particular, the present specification describes the claimed subject matter with sufficient specificity as "to clearly convey the information that [the] applicant has invented the subject matter which is claimed." The specification objection and the rejection under 35 U.S.C. § 112, first paragraph, are improper and, therefore, should be withdrawn.

In re Appln. of Fang
Application No. 09/975,335

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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Amendment or ROA - Final (Revised 7/29/03)